

**Flash Flood Monitoring and
Prediction's (FFMP)
Forced Flash Flood Guidance
Graphical User Interface**

Guide for Users

version OB3

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NWS - MDL

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Introduction

The Flash Flood Monitoring and Prediction (FFMP) system is an integrated suite of multi-sensor applications which detects, analyzes, and monitors precipitation and generates short-term warning guidance for flash flooding automatically within AWIPS.

One of the basic inputs to FFMP is Flash Flood Guidance (FFG), which is issued by the nation's River Forecast Centers (RFCs). Unfortunately, there are instances where the FFG issued by the RFCs is not valid or no longer representative of true conditions. There are also areas of the country for which no RFC issues FFG.

The Forced FFG GUI (FFFG) provides the NWS forecaster a method to provide their own FFG values to use in FFMP. Whether for the purposes of filling a void left by the RFC, accommodating urban areas or fire scars, or perhaps handling antecedent precipitation, using FFFG will enhance FFMP's ability to monitor your CWA for flash flood potential.

Running the FFFG GUI

Currently, FFFG is run from the command line. Issue the command "ForcedFFG.tcl" and the GUI will appear. (See Figure 1.) When the GUI starts, it ingests the FFMP lookup data that is generated upon localization. This is basically all that it needs to run properly.

There are 5 main sections to the GUI, detailed below.

The FFFG GUI Basic Sections

The Top Section

File Menu

Left-clicking the "File" menu at the upper left of the GUI will present seven selections. Each selection also has a keyboard shortcut. Also note that the functionality of these selections is duplicated in the buttons in the Bottom section of the GUI.

- ▶ retrieve... <Alt-r> Selecting 'retrieve' will allow you to ingest a previously saved file. This retrieval can take several forms
 - **retrieve:** Will clear all data currently in the GUI and replace it with the data read from the chosen file.

- **merge overwrite**: Will retain the data currently in the GUI and load the data from the selected file. The data coming in from the selected file will overwrite the data currently in the GUI only when the two conflict.
 - **merge**: Will retain the data currently in the GUI and load the data from the selected file. The data coming in from the selected file will **not** overwrite the data currently in the GUI when the two conflict.
 - **cancel**: Cancel the data retrieval operation and retain data currently in the GUI.
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|---|-------------|---------|---|
| ▶ | save... | <Alt-s> | Selecting 'save' will save all of the data in the GUI to the file whose name appears above the File Actions section at the bottom of the GUI. (See the Bottom section below.) If no file name is there, then this 'save' selection will behave the same as the 'save as' selection (below). |
| ▶ | save as ... | <Alt-a> | Selecting 'save as' will save all of the data in the GUI to a file name of your choice. All files are stored in /data/fxa/tstorm and have the .ffg suffix. |
| ▶ | delete... | <Alt-d> | Selecting 'delete' will delete the chosen file from disk. |
| ▶ | apply all | <Alt-p> | Selecting 'apply all' will apply the data in the GUI so that FFMP will see the forced FFG and use it. |
| ▶ | clear... | <Alt-c> | Selecting 'clear' will clear the 1, 3, and 6 hour columns of data. (See the CWA, County, and Basin sections below.) |
| ▶ | exit... | <Alt-e> | Selecting 'exit' will shut down the GUI without saving any data. You will be asked to confirm. |

FFG Value

The entry widget labeled "Enter FFG value (inch):" is where you provide the FFG value you wish FFMP to use. This value can currently be either a number or a number with a "+" or "-" in front of it. When you assign an FFG value to an entity (county, basin, or entire CWA), this is the value that gets assigned to the entity. (See the FFFG sections described below.)

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|---|----------|--|
| ▶ | override | Providing just a number will assign that number as the FFG value for the entity chosen. |
| ▶ | modify | If a plus or minus sign is entered before the numeric value, then the according mathematical calculation will be made. The value provided will |

either be added to or subtracted from the FFG value that the entity currently has. Note that, when the data is applied, the resulting FFG value is not allowed to have a value less than zero.

Expiration

The entry widget labeled “Enter expiration time (hour):” tells FFMP when to no longer use the forced values provided by the GUI. When ‘apply all’ is executed, files get written with the forced data, the time the data was written, and this expiration time in hours. FFMP will know that, if the expiration time is met, it will no longer use the forced FFG values. If you enter a value of zero for the expiration, the forced FFG values **WILL NEVER EXPIRE!** This is dangerous and not recommended, but may be logical for some cases. For example - if you wanted to permanently handle urban basins with a single FFG value, setting the expiration value to zero might make sense. If this gets sets to zero you can always reset it at a later date and re-apply the data.

The Bottom Section

File Name

If a file is retrieved, merged or saved, the file name will appear next to the “File Name” text. If a file has been named here and then modifications are made to the FFFG data in GUI, the word “Modified” will appear next to the file name with a yellow background. (See Figure 1.)

File and Forced FFG Actions

The buttons in the File Actions and ForcedFFG Actions boxes provide the same functionality as the the selection in the File menu in the Top section. (See the Top section above.)

Status Bar

The Status Bar informs you when something significant has happened. When a new message appears in the Status Bar, it will blink for about one second. Messages that appear in the Status Bar are usually confirmations of successful operations (ie: file retrieved successfully, etc) but may also contain some error information. When an error is presented, the status bar background turns red..

The FFFG Section

There are three sub-sections in this section where you actually provide values to entities: CWA-wide, County, and Basin. Each has a title row and three columns where the data will be listed. Each title of each column has a radio-button to allow you to choose what time frame you will be assigning the data. Only one time frame at a time can be handled.

Note that there is a logical override sequence when more than one of these three sub-sections is

used. When there is a conflict, basin values will override county values and county values will override a CWA-wide value. For example: if the CWA was given one value and one basin was given another, all of the basins in the entire area would have the CWA value, except for the one basin assigned a different value.

CWA-wide

To provide a single value to all basins in the entire area that FFMP monitors, click the ‘set’ button and the value provided will get assigned to the hour chosen for the entire CWA.

County and Basin

Both the County and Basin section have two additional columns for the name and identifier of the county or basin, each able to be used to sort the list. These name and identifier lists are linked, so if one list gets re-sorted, the other will match its order. Also the vertical scroll bar controls both lists.

- ▶ **Sort** Click the “Sorted by *xx*Name” or “Sorted by *xx*ID” in order to sort the lists according to the name or identifier respectively (where ‘*xx*’ is County or Basin).
- ▶ **Selecting Entities** Left clicking on either a name or identifier will select that entity. The standard shift-click and Cntrl-click operation are also enabled, allowing for several entities to be selected at once. Note that you cannot work in the County and Basin sections simultaneously. You must work in one at a time.
- ▶ **Assigning Values** Once you have entities selected, you may right click on them to assign them the provided value in the chosen time frame. You can also right click on a single entity to assign it (without having to first select it with a left-click).
- ▶ **Trim the Basin List** There is a toggle entitled “Show basins from selected county” that you can use to trim the basin list. If this toggle is off, the basin list will contain all of the basins that FFMP is using, which is usually thousands. If this toggle is on, the basin list will contain those basins in the counties that have been selected in the County sub-section. The name and the identifier of the county will be labeled on the green line above the Basin sub-section. Each time a new county selection is made, the basin list will update.

Figures

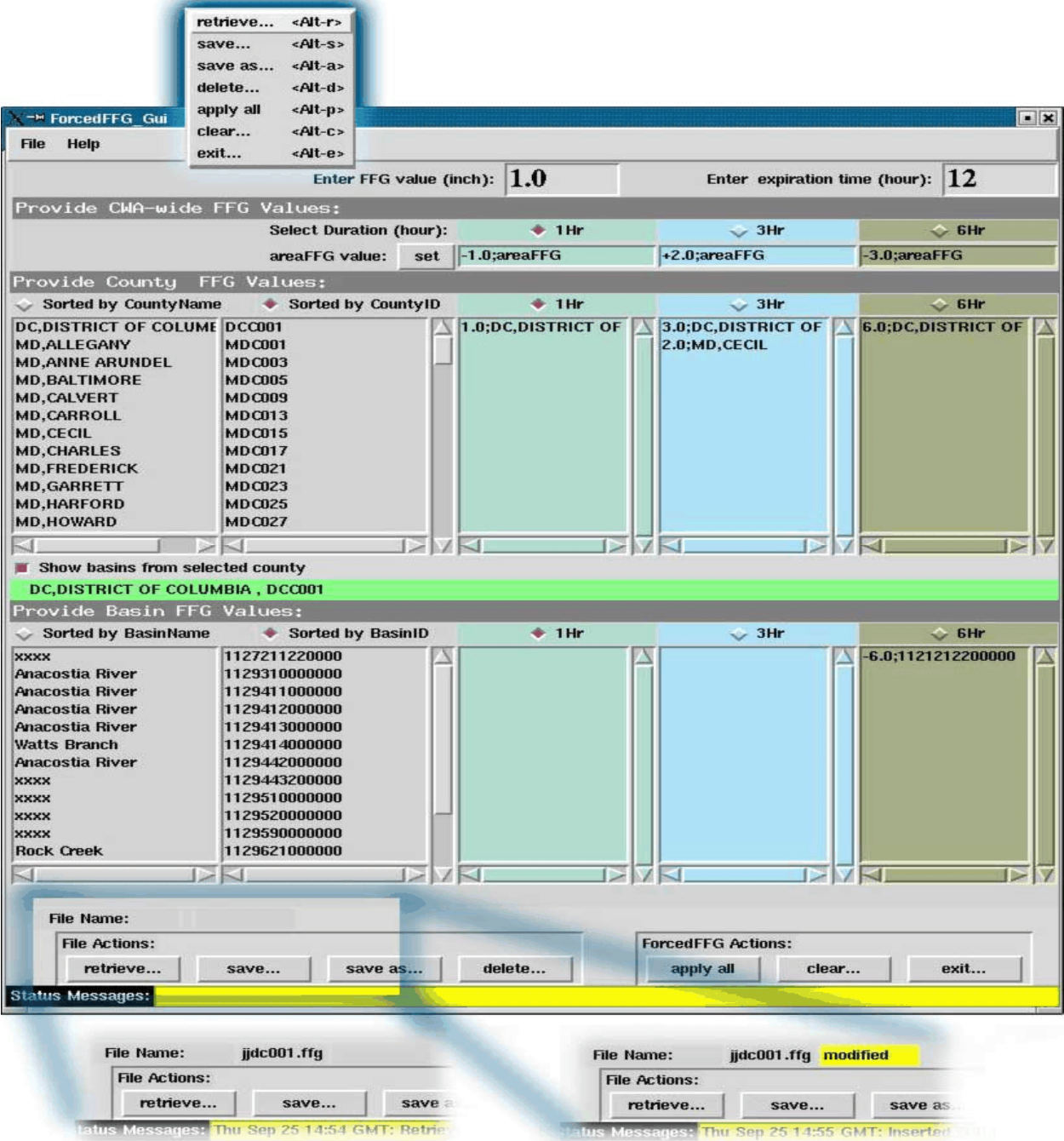


Figure 1 The FFFG GUI, with emphasis on the Fie menu (at top) and the FileName section (at bottom).

Help

You can get a good deal of more detailed info from the FFMP GUI web page at <http://www.nws.noaa.gov/mdl/ffmp>. To report problems or ask questions concerning the operation of the ForcedFFG GUI, please contact Tom Filiaggi at (303) 497-6578 or email at Tom.Filiaggi@noaa.gov or use the awipsinfo list server